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The Isthmian Canal

AN ADDRESS

BY

MR. GEORGE S. MORISON
OF NEW YORK
Member Isthmian Canal Commission

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BEFORE THE MASSACHUSETTS REFORM CLUB

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The ISTHMIAN CANAL

AN ADDRESS

By MR. GEORGE S. MORISON

Before the Massachusetts Reform Club
April 24, 1902

Mr. President and Gentlemen of the Reform Club:

I had supposed that the Isthmian Canal question was one of such importance and such interest that all members of this club knew something about it. After the confession of your president, I can say but one thing: I hope his ignorance is not characteristic of the other members of the club. If it is characteristic of them, which I am not willing to believe, I must simply say that I am the wrong man to-night; for I have not come to speak of the relative merits of the different canals. I have thought that was a subject which had been described and talked of until it was understood. Two months ago, in another city where I was asked to speak on the matter of the Isthmian canals, I did describe their relative merits and gave my own views as succinctly as I could. I do not wish to repeat to-night what I said then; but if your president will promise to give up his prejudiced ignorance and to read what I said that night, I shall be happy to give him a copy of it and let him lend it to any other member of the club who may prove to be as ignorant as he is himself.

I have considered that the question of physical superiority had been thoroughly and permanently settled in favor of Panama. I remember saying to some of my friends more than 20 years ago, when I knew little about the subject and when the matter of the Isthmian Canal was first brought prominently before the American public as an actual work to be done, that I believed the true solution was a tide-water canal at Panama; but that I believed it was so expensive and so difficult a thing that its construction should be deferred till the twenty-first century, and that the Nicaragua Canal would make a cheap tool to be used meanwhile. I confess that even then my views were wrong. But the changes which have taken place on the ocean, in the merchant marine, have been so rapid in those 20 years that even assuming that Nicaragua would have made an economical and efficient tool 20 years ago, it would not do so to-day.

A general comparison of the two canals may be very simply made. The first great advantage of the Panama Canal is that it is so short a line between the two oceans. This means that a ship can enter it in the morning and be in the other ocean at night. To go through the Nicaragua Canal would require three times as long as to

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go through the Panama Canal. That means one of two things: It means either running three days, thus losing two more than at Panama; or it means running by night. That small ships would go through the canal and river by night, I have no doubt. But that large ships would do it in a country of Nicaragua's climate, where there is one of the heaviest rainfalls in the world, I do not believe. This is, in the first place, the prime great advantage of the Panama Canal, the short time which a ship will have to stay land-locked. A ship belongs at sea; it does not belong 25 miles inland.

The next advantage, which comes from the same short length of the canal, is the fact that the Panama Canal, crossing the narrowest portion of the isthmus, will occupy the position of a strait; it will not interfere in any way with the countries on either side. It simply is the occupation of a line of transit, which can be kept entirely clear of international complications. The Suez Canal has become the recognized boundary between Asia and Africa. There is no reason why the Panama Canal should not become the recognized boundary between North and South America. This cannot be done with the Nicaragua Canal. The Nicaragua Canal must go for practically 200 miles through a country which is capable of settlement and development. This long stretch of country cannot be occupied without more influence on the adjoining countries than it is desirable to have. One is an independent location. The other is a location complicated with surrounding political conditions.

These two reasons alone seem to me absolutely conclusive as to the superiority of the Panama Canal when it is done. There is one other thing upon which I ought to say a word, principally because of the ignorance which your president has expressed and has tried to ascribe to the whole Reform Club. The best possible solution would be the tide-water canal, when it was done. Of that, I have not the slightest doubt. But the difficulty in building a tide-water canal is principally one of time. It would probably take at least 20 years to construct a tide-water canal at Panama. It might take 25 or 30. This is a very serious thing; and the advantages which the tide-water canal would have over a canal with a moderately high summit level, approached by locks, are not commensurate with this additional loss of time.

So much for the canal when it is done. There is another thing to which I attach considerable weight. I fully believe that the Panama Canal, including all that may be paid for concessions of French rights or anything of that kind, will cost a great deal less than the Nicaragua Canal; that the difference will be very much greater than has been estimated even in the report of the Isthmian Commission. There are several reasons for this. The Commission, in its effort to put everything

on as even a basis as possible, has perhaps overstepped the mark. The same prices have been used throughout for both canals. The same percentage has been added for contingencies, although at Panama a very large portion of those contingencies have already been met and provided for in the work which has been done, and although the opportunities for investigation and understanding are very much greater at Panama than at Nicaragua. Furthermore, in the estimates made for the work at Panama, provision has been allowed for a great many things which would not have been allowed for, if we had had only the uncertain information given by borings and the like. In one instance it amounts to many millions; rock prices have been used at the Culebra cut with earth slopes; and an exceedingly expensive retaining-wall has been provided, which would have been almost entirely omitted if we had had no further information than what existed before any work was done.

There is another element. It has been considered by many that the limit of time required to complete a great work was the time required for the largest single item of that work. This is perfectly true in a country supplied with labor, with facilities of transportation and other such things as exist in the United States or any of the other settled portion of the world. But it is not the case on the isthmus, where there is practically no working population, where there are no lines of access, where everything must be brought in and everything must be got ready. While some of my colleagues have differed from me, I have not the slightest doubt that in actual practice it will take at least one-quarter longer to build the Nicaragua Canal than to finish the Panama. I might cite, as an instance of this, the construction of our Pacific railroads 30 years ago. Their time could not be determined by the time any great work on the line required. They had to be begun at the two ends and built till they met in the middle. It was slow work at first, gradually hastened. Those roads were built in what was then considered marvellously quick time. They could be built in one-quarter of that time now, simply because we have access to them.

Nicaragua has been supposed to have three special advantages. The first of these is the position of its western terminus. The western terminus of the Nicaragua Canal is more than 500 miles nearer San Francisco than Panama is. That is an undoubted fact and an undoubted advantage that Nicaragua possesses.

The next supposed advantage is in respect to sanitary conditions. Nicaragua has been supposed to be very much more healthy than the Isthmus of Panama, and this is true. But the statistics of mortality are always meagre in a population that consists principally of monkeys, and that is the principal element of the population of the swamps of Nicaragua. Epidemic diseases

seldom exist in countries without human population. This is the state of affairs at Nicaragua. The eastern end of the Nicaragua Canal, for a length about equal to the whole Panama Canal, runs through a country with an average rainfall varying from 240 to 300 inches a year. It is something like double the rainfall on the Isthmus of Panama. The friends of Nicaragua have explained the superior healthfulness of this district on the simple principle that it is perfectly healthy to be dry, it is perfectly healthy to be wet; it is very dangerous to pass from wet to dry, and in this region you never have to do it. Perhaps this is true. I will not deny it. But the fact remains that the rainfall is such that that region is a continuous swamp, and that the conditions will be very greatly changed when the swamp is opened and work is carried on. The Isthmus of Panama undoubtedly is a very unhealthy place. It has been inhabited by one of the worst populations of the globe. Its sanitary principles have been conducted in the same manner as in all Spanish-America, where the concealment of filth from the eye, without reference to the other organs, was all that was ever asked for. The experience of the last few years in Cuba is one of the most valuable things which have ever occurred. Cuba, in itself, is probably one of the healthiest islands in the whole world; but it has been made a hotbed of disease simply by the principles which have governed sanitation in Spanish America. The existence of filth in all kinds of places, accompanied by the excursions of the striped-legged mosquito, seems to have been the cause of all the illness in the Island of Cuba. It has undoubtedly been the cause of much of the illness on the Isthmus of Panama. What the actual facts would be if work were undertaken on the two isthmuses, no one can say; but for my own part I feel that it is a case of infection at Panama and a case of malaria at Nicaragua. There is malaria at both places. But I would rather, myself, attempt to wipe out the bad infectious troubles on the Isthmus of Panama than to eliminate the dangers of the swamps at Nicaragua.

The third advantage of Nicaragua has been supposed to be that there a clear title could be obtained without any complications with the vested rights of other parties, and for a time this appeared to be true. The complications at Panama seemed to be of such an aggravated character that there was danger that they would preclude the construction of the canal on what was preeminently its best location. Furthermore, these complications extended, not only to the site of the Panama Canal, but to every possible canal site within the Republic of Colombia. That has been changed. The rights under which the French company has been building this canal are totally inadmissible for the construction of a canal by the United States Government. But they were

a cloud on the title; and the offer of the representatives of that company, accompanied by an agreement with the representative of the old, defunct, original company, to join in a conveyance in the nature of an absolute quit-claim of every right and title of any kind on the isthmus, puts the Panama position legally in a much clearer light than the Nicaragua position. It is an absolute quit-claim from every one who has any rights there. At Nicaragua all that our country is offered is the assurance of the Nicaraguan Government that it has forfeited rights which had been granted and had not been used. The title is clearer at Panama than at Nicaragua.

This is simply a general account of the relative positions of the two to-day. The one advantage that Nicaragua has, is that its west end is 500 miles nearer San Francisco than Panama is. And this means much less than it sounds like. If a steamer goes through Nicaragua night and day as fast as it can go, it may be able to get to San Francisco in one less day than it could if it passed through the Panama Canal. But if it runs only by day and lies up at night, the time is equal for the two. And this is the case with freight steamers of moderate speed. A high powered passenger ship, even if it ran night and day, would lose as much time in going through Nicaragua as it would take to make the additional 500 miles if it went through the Panama Canal. Perhaps you may say that fast passenger steamers will not go through there, and that is perfectly true. But the speed of the freight steamer to-day exceeds the speed of the passenger steamer of 30 years ago. Whether such changes will continue, I do not know. You can judge as well as I can. But I mention it merely to indicate the possibilities. I shall say nothing further of the relative merits of the canals; but in all that I say after this, I shall assume that Panama is the canal which is selected and is the one which will be built.

Going now to a different subject, what are the reasons why a canal should be built? And first, what are the commercial reasons for building a canal? Being a Reform Club, I presume commercial reasons are of secondary consideration to you; but they ought to be considered.

There are several classes of traffic on which the opening of the canal will have very important influences. First of all, there is the trade of the west coast of North America. The construction of this canal will put San Francisco, which may be accepted as the commercial center of the Pacific Coast, and not only that, but the port which almost all business going to any point north of Mexico, whether in America or Asia, will seek—the construction of this canal will put San Francisco within 15 days of New York by a steamer of the same class as the Morgan Line of steamers running between New

York and New Orleans; and within 23 days of any English port, by the same class of steamers. I think that tells its story. What it means is that it extends our coasting trade to the whole of our country. It extends it there on practically the same lines that it is now conducted between New York and Boston, between Boston and Baltimore, between New York and Charleston and Savannah, between New York and New Orleans, or between New York and Galveston. That trade would to a certain degree be taken from the present transcontinental railroads. They would lose a business which they do now. But the railroads terminating at our South Atlantic and Gulf of Mexico ports do not seem to suffer from the coasting lines of steamers. In fact, the development which these steamers have rendered possible has been of the utmost benefit to the railroads. It will be the same way if our coasting trade is extended through the Panama Canal to the Pacific Coast. The impetus it will give to the various developments of the California, Oregon and Washington coast will much more than make up for any particular traffic that may be lost. Furthermore, it will have one other effect. Our whole coasting fleet will be available for our entire coast. At present there is one fleet on the Pacific, another fleet on the Atlantic. They cannot go from one to the other. At times it leads to very unsatisfactory conditions, especially on the Pacific Coast.

The next class of traffic which must be considered is that of the eastern coast of the United States; and this both in its connection with the west coast of North America and with the west coast of South America and with Asia. And there comes in a curious thing which those people who have studied geography by maps know little about. If you want to go from Panama to Yokohama and to make a coaling port on the way, there is no other port which is a quarter as convenient as San Francisco. The route from Panama to Yokohama by way of Honolulu is several hundred miles longer than the route by way of San Francisco. Practically all the Asiatic business that goes through the Panama Canal will go to San Francisco. San Francisco will be the coaling port. San Francisco will be the port where mails and passengers will be received. San Francisco will get the benefit of nearly everything belonging to that business, in spite of the freight which goes through by water. So far as business beyond Yokohama and Hong Kong is concerned, the situation is different from what might be supposed. The mouth of the Mississippi River is in longitude 90 deg. west. The mouth of the Ganges is in longitude 90 deg. east. The mouth of the Ganges is directly opposite the mouth of the Mississippi; and the Mississipppi is as far west of London as the Ganges is east. There is no European traffic for the far East, unless for a portion of New Zealand, which will not find

a shorter route through the Suez Canal than through the Panama. Starting from New York, Manila is practically a common point. Manila may be reached about as easily by way of Suez as by way of Panama. The Asiatic business which would seek the Panama Canal is the business of the United States with Japan and China. The business of the United States with India and with everything west of the Straits, would find other better routes. That is practically the limit of Oriental business which would seek this canal. And that business would take the northern route and stop at San Francisco.

There are, however, two other classes of business which would go through that canal. The first is the business with the west coast of South America, a business which seems to have great possibilities of development, but in which the United States has hitherto had exceedingly small interests. That west coast is now served by several European lines of steamers, which, passing through the Straits of Magellan, come up on the west coast; while some of them make connections at the isthmus, and transfer. But the opening of this canal will place the west coast of South America 3,000 miles nearer our ports than to those of Europe. It will give us the opportunity to do there what we are doing in Mexico and in the West Indies. It will give us an entirely new field for commerce, and one which may be of the very utmost importance. These classes of traffic are the ones which the canal will open. The canal will also form our best line to New Zealand and Australia. How much business we shall have with those regions I do not know. Many people are familiar with those special traffics. But, at any rate, the principal thing to be observed is that the business which will go through the canal when it is done, must be very largely a business which does not now exist. When our western wheat can be taken to Liverpool in 25 days, instead of 140, we may expect certain results from it, when you consider the less amount of capital which will be tied up, which are otherwise impossible. I cannot help feeling that the traffic through this canal will actually be enormous; and that the present statistics of traffic now existing are no indication of what it will be. Furthermore, it must be a traffic of coarse tonnage, carried at low rates, and which will bear comparatively low tolls. It will not be the same class of traffic that goes through Suez. And it will be a traffic which is likely to require the same changes of rates which have occurred on American railroads. It is a parallel case. No American railroad that I know of could have operated profitably on the business that existed before it was built. And the most profitable railroads have been those which had the least traffic before their construction, whose traffic was only possible because they existed, and whose traffic has continued to increase in profit because the continual decrease of rates

has led to a much more rapid increase of volume. That is what I look for in the case of the canal. There are no estimates which are entitled to less consideration than estimates of traffic, made before that traffic comes into existence. And I know of nothing which has fulfilled its expectations in a measure more incommensurate with what they actually were, than the traffics which have been developed under similar conditions.

Another reason why this canal should be built is a political reason, and to this political reason, a great deal of value must be attached. As this is a Reform Club, and not a commercial club, I presume it is busied with political rather than with commercial considerations, and that such considerations here will be given their full weight. And, in the first place, I would say that in all political matters the human element of the problem is very large. Erroneous as commercial calculations are likely to be when made purely as calculations, the error in political calculations made on the same basis is probably much greater. However much may be said about the cost of a canal for political reasons, the voyage of the "Oregon" was an object lesson which has weighed much more with nine people out of ten than any such calculations possibly can. We may figure that the interest on the cost of the canal would build three ships and put them on the Pacific every year, and that in that way we could have a double navy instead of a single one. But, whether that be true or not, it does not meet the condition, and it certainly does not satisfy the public mind. Our government is the first government of the kind the world has ever seen. It has been trying to do something which has never been attempted before. It is conducting the general legislation for the country in all matters to which the general government attends, on the principle of a legislature elected by popular votes in States which are widely separated geographically. We call for and desire, our whole government is based on the principle of, the unity of this government. The danger is, that such unity of government cannot be maintained without a unity of interest. It is of the utmost importance that every step should be taken which we reasonably can take which will further a unity of interest, which will make the interests of the Pacific States identical with those of the Atlantic; the interests of the Southern States identical with those of the Northern. I know of no one thing which will do this as much as the construction of the Isthmian Canal. I feel that this alone is perhaps the strongest reason of all for building the canal, and alone it is a sufficient reason for deciding to do it.

This is not all. The position of our country is one which we know. It has become a great country among other nations. It has become a country of great pro-

duction and great capacity. It has become a country with rapid lines of transportation and a great many other things of the kind. I feel that this work has been accomplished very largely through my own profession; that the civil engineer, the man who directs the great sources of power in nature for the use and convenience of man, has made the American Republic, as it is to-day, possible. He has not only made it possible, he has made it inevitable. He has brought about a condition which a hundred years ago many of our statesmen were afraid of. But he has brought it about in a way in which it could not possibly be avoided. We can no more step back of that condition than we can live again in the sixteenth century. It is an absolute fact which must be accepted and which we must work under. It has primarily been rendered possible by the engineer; but it is a work in which the merchant, the traveler and a great many other people have had their part, a work which is being done and which will continue to be done. This club, as I believe has been said before, is a Reform Club. The reformers have been the radicals of the world, they have not been the conservatives. I suppose I may therefore assume that the object of this club is to be in advance of the ideas of the people and to set a pace perhaps a little too fast, but never too slow. The conditions under which the country now lives must be accepted, they cannot be reversed. Our acts must be such as will make the very best terms out of what exists, and bring about the very best possible results. And, from this point of view, we require the canal. We require it for our foreign trade development. We must have a market for our goods. We must be able to reach that market. The construction of the canal will practically put us as near as any European nation is to all the world excepting Europe and the western part of Asia. That is one reason why we need it.

And then we need it for another reason. We need it, not merely to make a market for our goods, but to develop the kind of trade we need and to develop it in the way in which our country will prosper most. I know of no single agency which will bring about the graduation from our economic education more quickly than the Isthmian Canal. And by economic education, I refer to tariffs and matters of that kind. I have always believed in protection. I have been a protectionist and am to some extent now, but I look upon protection in the same way that I look upon education. It is justifiable because it leads to something else. A college training is valuable for the after life, but the boy who after going to college devotes his whole life to the acquiring of an education which he does not use, makes a very poor citizen. When protection has established a business which no longer requires it, it should be withdrawn. A business which can never be expected to live without protection should

never be protected. We are now the leading iron manufacturers of the world; protection has hastened this result by many years and has done a good work, and that work is now completed. There are some things which we can make better or cheaper than countries in any other part of the world, and it is our interest to find a market for these goods. There are other things which we can never make as well as or as cheaply as some other nations can, and it is for our interest to be a market for these goods. A market for the articles in which we usually excel will be found in countries west of the Pacific and on the west coast of South America. All those countries are eminently capable of producing articles which it is not natural for us to make; if we cannot get this foreign trade we need a protected home market for our manufacturers; if we can get this trade where we can sell that which we can make best we shall be in a position to buy to best advantage that which we can produce only under difficulties. This means breaking down the policy of isolation. We have already started in this way and we are talking about reciprocity. From this point of view I know nothing which will bring about such a result sooner than the construction of an Isthmian canal will. It will put us in communication with all portions of the world where we can sell as well as buy. Armed with the diploma of a protective education we shall be ready for free trade.

That is all I have to say about the character of the canal and the reasons why it should be built. There is one other aspect on which I wish to touch. And that is, how should it be done? And in this matter I think the experience of the Spanish War and since then has been of the utmost value to us. I believed in the Spanish War. I was always in favor of it. There are many reasons which I see now why it has been good for us, and this is one; it has taught us how to occupy a tropical country, how to handle that country and how to get good results. We took the Island of Cuba, a pest-hole of yellow fever. After three years, the amount of sickness among American soldiers in Cuba is much less than it is in the United States. The Panama Railroad was built when sanitary principles were not known and when little care was taken; and there was an enormous loss of life and a terrible name given to the isthmus. The French Company began constructing the canal, and imported into the isthmus many of the luxuries and vices of their northern capital, and the death rate was renewed. The city of Panama is a pest-hole; but it has never been as bad as Santiago de Cuba formerly was; and there is no reason why Panama should not be as healthy as Santiago de Cuba is now. The first condition is, that there must be an absolute military occupation of the isthmus, with the same control for police sanita-

tion and everything else, that we have had in Cuba. Panama is not naturally a healthy country, as Cuba is. But it is not any worse than nor so bad as the St. Francis bottom nor the Sunflower country, with which we are all familiar and which are in the heart of our own country. That military occupation must extend to everything which influences health, to police and other regulations; and it must be continued during the whole construction of the canal. I do not believe there are any men in the world as capable of making that military occupation efficient and good in its results as the men who have been trained in our own army in the Cuban occupation.

Then the work must not be started too soon. Two years at least should be consumed in preparation. Get ready thoroughly before you begin. I fully believe that with two years spent in preparation, the canal would be open three years earlier than if only one was spent. Those two years of preparation would be required for the detail surveys, the complete plans, the complete specifications, the complete organization for carrying on the work, and especially for the general cleaning up required for sanitation. The filth of 400 years must be taken from under the houses and dumped somewhere in the Pacific or the Atlantic. The isthmus, which has been occupied for 400 years, practically has not a water pipe on it. There is plenty of good water on the isthmus, excellent water, but it must be brought to the towns and to every place there; and people must be compelled to use it instead of drinking from the swamps. This kind of work must be done throughout and everything should be in shape before the actual laboring force is brought there, before the work is begun. Panama is an old city, built at the head of a bay with an enormous tide. We may be confronted there with some of the same sewage problems that were handled in Boston, only it is a city of 20,000 people instead of half a million, and the tide is so great that the discharge from the sewers can be conducted without any pumping, by simply letting it out on the turn of the tide. There is no reason why it should not be done at comparatively small cost, especially as there is no expense to get below frost. Colon is a smaller place, but naturally a worse place. It is practically built on a swamp. It is a miserable town. Perhaps it had better be burned up, and another town built at a higher level after grading it up. That is a detail to be determined hereafter. If that course were adopted, the buildings are not sufficiently valuable to make the expense of the conflagration unreasonable. There is a moderate amount of swamp in the first ten miles south of Colon. There is some swamp back of Panama. These swamps will undoubtedly have their evil influences. There will be some malaria. You can get rid of yellow fever. And perhaps by that time we

can get rid of malaria. But without any doubt, under proper conditions, the mortality during the work there can be kept within very reasonable limits. The mortality there during the work, if the work was properly conducted, I believe would be less than the mortality in some northern cities in the most healthy locations, in which sanitary provisions are all neglected.

The climate is an enervating one. It has a large rainfall, though not excessive for the tropics. It is about half of what it is on the eastern side of Nicaragua. All those things have their influence; but they must be regarded rather as warnings of the necessity of thorough preparation than as deterrents from carrying through the work.

The laborers must be imported. The work must probably be done almost entirely by contract. This would be especially the case in government work.

It is work which requires a new outfit throughout. The largest outfit ever provided for any public work is now rusting on the Isthmus of Panama. In my judgment it would be a mistake to require a contractor to use a single particle of that outfit. It is 20 years old. Assuming it to be in perfect condition, to be as good as when it went there, how much is any machine worth which is 20 years old? You cannot afford to take it for a gift if you are required to use it. I would rather have, myself, the isthmus entirely without that machinery, for it may cost more than it is worth to get it out of the way.

The sources of labor will be probably very largely the West India Islands. But the two years which ought to be given to consideration and to preparation, to getting things in order, will give time to settle these matters. We have contractors in this country who are abundantly able to carry out that work if they are backed by capital, and they would be.

How long it would take to do the work is a matter of conjecture. It will depend on some things which we cannot control. But with two years of preparation, I have no doubt, myself, that the following eight years would be ample to carry the work through; and that, with the preparation and the efficient management which I should hope would be obtained, it will be possible to finish the work for less than the estimates which the Commission has made.